Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of forming an anti-microbial wiper capable of providing a liquid anti-microbial solution after multiple rinse cycles, the method comprising the steps of:

providing a controlled release anti-microbial formulation comprising an anti-microbial agent and a cross-linked polymer ~~mixture~~ that comprises at least one compound selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, carboxylated acrylic latexes, ~~and~~ vinyl acetates, and mixtures thereof; and

adhering said formulation to an absorbent web containing fibers, which web retains liquid after each rinse cycle, and which formulation releases sufficient anti-microbial agent into the retained liquid after each of at least five normal rinse cycles so that the retained liquid is an anti-microbial solution and said retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper.

2. (cancelled)

3. (currently amended) A method as defined in claim 1, wherein said cross-linked polymer ~~mixture~~ is capable of swelling upon exposure to water ~~comprises a water-swellable polymer~~ such that the degree of swelling of said ~~water-swellable~~ cross-linked polymer at least partially controls said release of said anti-microbial agent.

4. (currently amended) A method as defined in claim 3, wherein said cross-linked polymer ~~mixture~~ is a carboxylated acrylic latex ~~adhesive~~.

5. (canceled)

6. (original) A method as defined in claim 1, wherein said anti-microbial formulation comprises a source of anti-microbial ions.

7. (original) A method as defined in claim 6, wherein said source of anti-microbial metal ions are selected from the group consisting of silver, copper, zinc, mercury, antimony, lead, bismuth, cadmium, chromium and thallium.

8. (original) A method as defined in claim 7, wherein said metal is silver.

9. (original) A method as defined in claim 1, wherein said anti-microbial formulation comprises a source of free chlorine.

10. (original) A method as defined in claim 1, wherein said anti-microbial formulation comprises calcium hypochlorite particles.

11. (original) A method as defined in claim 1, wherein said anti-microbial comprises a quaternary ammonium compound.

12. (original) A method as defined in claim 11, wherein said quaternary ammonium compound is alkyl aryl benzalkonium chloride.

13. (currently amended) A method as defined in claim 1, wherein said polymer or cross-linked polymer ~~mixture~~ further comprises an additive selected from the group consisting of a cross-linking agent, a catalyst, a thickener, a plasticizer, a defoamer, a colorant, a visual sensor, a pigment, composite particles, a viscosity modifier, a stabilizer, a surfactant, and combinations thereof.

14. (original) A method as defined in claim 1, wherein the adhering of said anti-microbial formulation comprises spraying the anti-microbial formulation onto said absorbent web.

15. (original) A method as defined in claim 1, wherein the adhering of said anti-microbial formulation comprises printing the anti-microbial formulation onto said absorbent web.

16. (original) A method as defined in claim 1, wherein said absorbent web has at least two surfaces, said anti-microbial formulation being applied to said at least one of said two surfaces of said absorbent web in a pre-selected pattern.

17. (original) A method as defined in claim 16, wherein said anti-microbial formulation covers from about 10% to about 60% of said at least one surface of said absorbent web.

18. (original) A method as defined in claim 1, wherein said anti-microbial formulation covers from about 20% to about 40% of said at least one surface of said absorbent web.

19. (original) A method as defined in claim 16, wherein said anti-microbial formulation covers from about 10% to about 60% of both surfaces of said absorbent web.

20. (currently amended) A method as defined in claim 1, further comprising the step of curing said polymer ~~mixture~~ after said anti-microbial formulation has been applied to said absorbent web.

21. (original) A method as defined in claim 16, further comprising the step of creping said at least one surface of said absorbent web to soften said absorbent web after said anti-microbial formulation has been applied to said absorbent web.

22. (original) A method as defined in claim 1, wherein said fibers of said absorbent web comprise pulp fibers.

23. (original) A method as defined in claim 1, wherein said fibers of said absorbent web comprise synthetic fibers.

24. (currently amended) A method of forming an anti-microbial wiper for disinfecting hard surfaces comprising the steps of:

providing an absorbent base web containing fibers and capable of retaining liquid after a rinse cycle, said absorbent web having two outer surfaces; and

adhering an anti-microbial formulation to said absorbent web, said anti-microbial formulation comprising an anti-microbial agent and a polymer or cross-linked polymer ~~mixture~~ that comprises at least one compound selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, carboxylated acrylic latexes, ~~and~~ vinyl acetates, and mixtures thereof, said anti-microbial formulation containing an anti-microbial agent being capable of activation when said absorbent web is contacted with a liquid, said activation including the release of a portion of said anti-microbial agent into the retained liquid to form an anti-microbial solution, said polymer ~~mixture~~ being capable of controlling the rate of release of the anti-microbial agent from the anti-microbial formulation so that said anti-microbial solution is formed after at least five rinse cycles and said retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper.

25. (currently amended) A method as defined in claim 24, wherein said cross-linked polymer ~~mixture~~ comprises an additive selected from the group consisting of a cross-linking agent, a catalyst, a thickener, a plasticizer, a defoamer, a colorant, a visual sensor, a pigment, composite particles, a viscosity modifier, a stabilizer, a surfactant, and combinations thereof.

26. (currently amended) A wiper capable of providing a liquid anti-microbial solution after numerous rinse cycles comprising:

a controlled release anti-microbial formulation comprising an anti-microbial agent and a ~~polymer or~~ cross-linked polymer ~~mixture~~ that comprises at least one compound selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, carboxylated acrylic latexes, ~~and~~ vinyl acetates, and mixtures thereof, which formulation is adhered to

an absorbent web which retains liquid after each rinse cycle,

which anti-microbial formulation releases sufficient anti-microbial agent into the retained liquid after each of at least five normal rinse cycles so that the retained liquid is an anti-microbial solution and said retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper.

27. (cancelled)

28. (currently amended) A wiper as defined in claim 26, wherein said polymer ~~mixture~~ is a carboxylated acrylic latex ~~adhesive~~.

29. (canceled)

30. (original) A wiper as defined in claim 26, wherein said source of anti-microbial metal ions are selected from the group consisting of silver, copper, zinc, mercury, antimony, lead, bismuth, cadmium, chromium and thallium.

31. (original) A wiper as defined in claim 30, wherein said metal is silver.

32. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation comprises a source of free chlorine.

33. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation comprises a source of chlorine dioxide.

34. (original) A wiper as defined in claim 32, wherein said anti-microbial formulation comprises calcium hypochlorite particles.

35. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation comprises a quaternary ammonium compound.

36. (original) A wiper as defined in claim 28, wherein said quaternary ammonium compound is alkyl aryl benzalkonium chloride.

37. (currently amended) A wiper as defined in claim 27, wherein said polymer ~~mixture~~ further comprises an additive selected from the group consisting of a cross-linking agent, a catalyst, a thickener, a plasticizer, a defoamer, a colorant, a visual sensor, a pigment, composite particles, a viscosity modifier, a stabilizer, a surfactant, and combinations thereof.

38. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation covers from about 10% to about 60% of said at least one surface of said absorbent web.

39. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation covers from about 20% to about 40% of said at least one surface of said absorbent web.

40. (original) A wiper as defined in claim 26, wherein said anti-microbial formulation covers from about 10% to about 60% of both surfaces of said absorbent web.

41. (original) A wiper as defined in claim 26, wherein said fibers of said absorbent web comprise pulp fibers.

42. (original) A wiper as defined in claim 26, wherein said fibers of said absorbent web comprise synthetic fibers.